PRELIMINARY OBSERVATIONS IN THE RABBIT ON THE ANTI-OVULATORY ACTIVITY PRESENT IN *TAXUS BACCATA* LINN. LEAVES

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Taxus baccata Linn., a tree which grows abundantly in India, has been reported to possess an antifertility effect (Kirtikar & Basu, 1935; Chopra, Nayar & Chopra, 1956; Chopra, Chopra, Handa & Kapoor, 1958; Chaudhury, 1966). Khanna, Garg, Vohora, Walia & Chaudhury (1969) recently reported that anti-implantation activity is present in the leaves. Possible anti-ovulatory activity of different extracts of leaves of *Taxus baccata* has been screened on fifty-eight, adult, non-pregnant rabbits, each weighing between 1.5 and 2.0 kg. The rabbits were obtained from a local source and housed in independent cages for at least 3 weeks before use.

The air-dried, powdered leaves of *Taxus baccata* were successively extracted with petroleum ether (b.p. 60 to 80° C), alcohol (95 %) and distilled water and the extracts were administered as a suspension with gum acacia, by a soft rubber catheter, at different intervals before induction of ovulation. Ovulation was induced by injecting copper acetate intravenously (4.0 mg/kg), a method which has been standardized in this laboratory (Khanna & Chaudhury, 1968). Earlier investigators have used induction of ovulation by cupric gluconate (Suzuki & Bialy, 1964) as a method for testing anti-ovulatory substances. To assess ovulation, laparotomies were carried out on the rabbit 48 hr after the copper acetate injection and the bleeding points on each ovary were noted.

The results of the experiments are shown in Table 1. The results indicate that, when administered at a dose of 200 mg/kg for 2 days, the petroleum ether and alcoholic extracts of the leaves of *Taxus baccata* did not prevent ovulation to any marked degree. When the aqueous extract of the leaves was administered at a dose of 400 mg/kg for 2 days, maximal anti-ovulatory activity was detected (100%). When the same dose of the aqueous extract was administered for only 1 day, there was no anti-ovulatory activity. Activity was also detected when doses of 200 and 250 mg/kg were administered for 2 to 3 days before induction of ovulation. When the average numbers of bleeding points (ovulation points) in the different groups of animals were compared, it appeared that there were fewer in rabbits when *Taxus baccata* had been administered at a dose of 200 mg/kg for 3 days (1.00), 250 mg/kg for 2 days (1.60), and 400 mg/kg for 1 day (1.80). However, bleeding points were present after administration of copper acetate in these animals while there were no bleeding points seen in ten

TABLE 1
ANTI-OVULATORY ACTIVITY OF DIFFERENT EXTRACTS OF *Taxus baccata* LINN. LEAVES

Extract	Dose (mg/kg)	Days of administration	No. of rabbits used	No. of rabbits without bleeding points	No. of bleeding points in individual rabbit	Mean $\pm$ S.E. of bleeding points/rabbit when calculated on the basis of all rabbits in the group	Percentage of rabbits failing to ovulate
Control	—	—	5	Nil	5, 5, 3, 2, 4	3.80 $\pm$ 0.58	Nil
Petroleum ether	200	2	4	Nil	2, 3, 5, 6	4.00 $\pm$ 0.91	Nil
Alcoholic	200	2	4*	1	2, 4	2.00 $\pm$ 0.81	33-30
Aqueous	200	2	15	10	3, 1, 1, 5, 1	0.73 $\pm$ 0.34	66-60
	200	3	10	6	4, 2, 1, 3	1.00 $\pm$ 0.38	60-00
	250	2	5	3	4, 4	1.60 $\pm$ 0.76	60-00
	400	2	10	10	Nil	Nil	100-00
	400	1	5	Nil	4, 1, 2, 1, 1	1.80 $\pm$ 0.56	Nil

* One animal in this group died after administration of the extract.

rabbits when *Taxus baccata* had been administered at a dose of 400 mg/kg for 2 days. In control rabbits, which were given the vehicle alone, bleeding points were always seen (3·80).

The results indicated that the aqueous extract of *Taxus baccata* possesses anti-ovulatory activity. Further chemical and pharmacological investigations are being conducted with this extract.

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